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ABSTRACT

The addition of the application and use of microcomputers to the academic programs at the University of Akron's College of Education was a gradual process. During the early 1970's, with acceptance by both the administration and the faculty and some budgeting support, a university-wide Computer Based Education Center was established, and the College of Education established the Educational Media Center for audiovisual and media materials. As faculty interest in microcomputers increased, the need for a microcomputer lab was recognized. During the 1983-1984 academic year, plans were made for integrating microcomputers into the educational media lab program and a course to integrate audiovisual media and microcomputer-based education was designed and implemented in fall 1984. Appendices to this report include instructions to students for using the educational media lab to learn about the microcomputer, self-instructional equipment operation, and materials production, and a description of the new course. Twelve educational objectives and 25 topics covered in the media course are listed. (LMM)

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**Acquisition and Integration of Microcomputers
in The Teacher Education Curriculum**

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The University of Akron

**Presented at the 1984 Annual Convention
of the American Vocational Association**

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The addition of the applications and use of microcomputers to the academic programs at The University of Akron's College of Education was a gradual process, the first step of which required a "mental acceptance" of both the administration and faculty.

During the early 1970s, with the acceptance and some budgetary support, a University-wide Computer-Based Education Center was established. For the rest of the decade, the Center's computer-based equipment were CRT terminals connected to the University's main frame computer.

Toward the end of the 1970s, a few faculty members in the College of Education became very interested in the use of the Microcomputer for educational applications. By 1980, a few microcomputers were being used in various parts of the college, but with no systematic management available, only limited student use was possible. With the use of informal faculty workshops, additional faculty also became interested in the use of microcomputers.

During the early 1970s, the College of Education, in response to certification standards for institutions training teachers, established a media center. This Educational Media Center was a facility designed for use as a lab where students learned how to operate audiovisual equipment and practiced media materials preparation. Most of the lab's clients were students who were enrolled in audiovisual media courses and methods courses containing media modules.

With faculty interest in microcomputers increasing, and a clear need to have microcomputers become a part of the teacher education curriculum, a microcomputer lab was recognized as a need. Unfortunately, because of limited space and financial resources, the establishment of a microcomputer lab was not going to happen in the immediate future.

When it was recognized that microcomputers was a form of technology, just as media equipment was a form of technology, the adding of microcomputers to the Educational Media Lab was studied. During the 1983-84 academic year, plans for integrating microcomputers into the Educational Media Lab Program were made. Instead of the establishment of a separate microcomputer classroom, microcomputers were set up for individualized student use. Next door a demonstration area was established for both microcomputer instruction as well as audiovisual media instruction. Since a large number of classes using media and/or microcomputers was being planned, this arrangement would leave the microcomputers free for more individualized student use. Appendix A describes how students may use the Educational Media Lab.

The addition of technology training into the teacher education curriculum was also needed. Because the programs of teacher education majors already left little room for additional areas of study, a course that integrated audiovisual media and microcomputer-based education was designed and implemented in fall, 1984. The course is described in Appendix B.

Appendix A
The Educational Media Lab

The Educational Media Lab (E.M.L.), located in Zook 335, is available to students and faculty to work on media-related projects and other activities designed to fulfill course and workshop requirements. The E.M.L. serves students and faculty in three Divisions: 1) The Microcomputer, 2) the Self-Instructional Equipment Operation, and 3) the Materials Production.

The Microcomputer Division contains Apple and IBM Microcomputers and various peripheral devices including printers. While faculty teaching College of Education courses and workshops may sometimes bring their classes in for a "hands on" experience under their direct supervision, most of the time these microcomputers are available for individualized student use. During these times students enrolled in College of Education classes requiring the use of microcomputers have first priority use of the microcomputers. Assistance is provided for basic microcomputer operation.

The Self-Instructional Equipment Operation Division contains the types of equipment found in a variety of educational institutions. With each piece of equipment such as the sound movie projector, slide projector, and tape recorder, is a self-instructional program that enables students to teach themselves how to operate the designated equipment. By working through the self-instructional program with a particular piece of equipment a number of times, the student will be able to operate the equipment without the program. Since the Self-Instructional Equipment Operation Division shares the same location as the Lab's Demonstration Area, there are times when this Division is unavailable for use. A schedule outlining the hours this division is available is posted enabling users to plan ahead.

The Materials Production Division contains equipment used in the production of media materials. Once students have been introduced to an appropriate production process or processes in the form of demonstrations in a media

class, they can use the facilities in the Materials Production Division to prepare a variety of media materials. Student-produced materials include mounted visuals, laminated visuals, display board items such as magnetic board or hook and loop board pieces, overhead projection transparencies, copy slides, audiotapes, lettering, and illustrations. Photographic processing facilities for film developing and photographic printing are available for students enrolled in College of Education courses and workshops that include photographic processing. Assistance is provided for the basic production processes.

While assistance and equipment are generally available without charge, those wishing to produce materials must furnish their own supplies.

If you do not wish to bring your own supplies, you may purchase supplies at the E.M.L. Since there is no facility for handling cash at the Lab, you must purchase an Educational Media Laboratory supply ticket (\$2.00) from the Cashier's Office at Spicer. The ticket is valid until the last day of Spring Semester classes. The unused portion of the ticket may be returned to the Cashier's Office for a refund any time before the last day of the Spring Semester classes.

Consult the Educational Media Lab Supplies List to see what can be purchased at the Lab with your supply ticket. The Supplies List can also be used to estimate the cost of supplies needed for selected projects. Be sure to purchase enough E.M.L. supply tickets to purchase the type and amount of supplies required to complete selected projects.

Appendix B

The Educational Media and Technology Course

Examines media technology including video, motion pictures, still pictures, audio materials, and computers in instructional settings with emphasis on selection/evaluation, utilization and preparation.

Objectives

The student will:

1. regard media technology as experiences that can involve the learner and result in learning.
2. state the characteristics and advantages of each of the commonly used media technology formats including opaque visuals, displays and learning stations, overhead projection transparencies, filmstrips and slides, audio recordings, microcomputer programs, and motion pictures (videotape and film).
3. state the instructional strategies used with motion pictures, projected still pictures, opaque visuals, overhead transparencies, audio recordings, and computer programs.
4. cite some of the sources of information about films, videotapes, filmstrips and slides, picture sets, audio recordings, and computer software.
5. state the rationale and guidelines for preparing instructional materials.
6. demonstrate competency in mounting opaque visuals, duplicating line drawings, lettering, and preparing overhead projection transparencies.
7. state the appropriate criteria used in evaluating motion pictures, projected still pictures (filmstrips and slides), opaque visuals, overhead transparencies, audio recordings, and computer programs.
8. evaluate films, videotapes, audio recordings, filmstrips, slide sets, and computer programs.
9. demonstrate competency in the operation of commonly used media equipment.
10. identify the criteria for each major mode of instructional computing placing emphasis on drill and practice, tutorials and simulations.
11. plan and apply strategies in using media materials to achieve selected objectives.
12. locate media materials and computer programs appropriate to stated curricular areas.

Topics:

Course topics are covered in the approximate order of appearance in this list. However, it may become necessary to alter the order of these topics. Because of time limitation, some of these topics may not be covered.

1. Course Orientation: Overview, Requirements, Facilities, and Policies
2. Nature of Communication
3. Roles of Media in Learning
4. Behavioral Objectives and Pupil Audience Analysis
5. Visual Materials: Advantages, Uses, and Evaluation
6. Opaque Materials Preservation, Adaptation, and Preparation (including Mounting, Laminating, Lettering, and Paste-ups)
7. Learning Center/Display Design, Uses and Devices
8. Microforms: Nature and Applications
9. Projection Principles and Environmental Arrangement
10. Opaque Projection
11. Overhead Projection: Characteristics, Applications, and Instructional Strategies
12. Overhead Projection Transparency Design and Preparation
13. Audio Recordings and Audio-Tutorial Instruction: Application, Instructional Strategies, Evaluation, and Recording Formats
14. Preparing Audio Recordings
15. Filmstrips: Characteristics, Application, Instructional Strategies, and Evaluation
16. Slides: Formats and Characteristics; Applications and Instructional Strategies
17. Motion Pictures: Applications, Instructional Strategies, Film Formats, and Film Care and Presentation
18. Motion Picture Evaluation
19. Motion Pictures: Television and Videotape Applications, Arrangement, Systems, and Evaluation
20. Sources of Media Materials
21. Equipment Evaluation
22. Community Resources: Field Trips and Resource People
23. Copyright
24. Microcomputer Applications and Program Instruction Modes
25. Microcomputer Program Evaluation and Use